

What Is Claimed Is:

1. A water-based ink comprising a colorant, water, a water-soluble organic solvent, a surfactant, and a chelating agent, wherein said chelating agent is nitrilotriacetic acid (NTA) or a salt thereof, methylglycine diacetic acid (MGDA) or a salt thereof, L-glutamine diacetic acid (GLDA) or a salt thereof, L-aspartic acid diacetic acid (ASDA) or a salt thereof, diethylenetriamine pentaacetic acid (DTPA) or a salt thereof, gluconic acid (GA) or a salt thereof, citric acid (CA) or a salt thereof, nitrilotripropionic acid (NTP) or a salt thereof, nitrilotrisphosphonic acid (NTPO) or a salt thereof, dihydroxyethylglycine (DHEG) or a salt thereof, hydroxyethyliminodiacetic acid (HIDA) or a salt thereof, 1,3-diamino-2-hydroxypropane tetraacetic acid (DPTA-OH) or a salt thereof, hydroxyethylidene diphosphonic acid (HEDP) or a salt thereof, nitrilotrimethylene phosphonic acid (NTMP) or a salt thereof, or phosphonobutane tricarboxylic acid (PBTC) or a salt thereof.

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2. The water-based ink according to claim 1, wherein said colorant is a dispersion in which a pigment has been made to be dispersible in water by being enveloped in a polymer or has been dispersed without a dispersant, and said chelating agent is nitrilotriacetic acid or a salt thereof.

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3. The water-based ink according to claim 2, wherein said pigment is an organic pigment or an inorganic pigment.

4. The water-based ink according to claim 2, wherein the
5 amount added of the nitrilotriacetic acid or salt thereof is 0.001 to 0.1 wt%.

5. The water-based ink according to claim 2, further containing polymer fine particles.

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6. The water-based ink according to claim 1, wherein the amount added of the methylglycine diacetic acid (MGDA) or salt thereof, L-glutamine diacetic acid (GLDA) or salt thereof, L-aspartic acid diacetic acid (ASDA) or salt thereof, diethylenetriamine pentaacetic
15 acid (DTPA) or salt thereof, hydroxyethyliminodiacetic acid (HIDA) or salt thereof, 1,3-diamino-2-hydroxypropane tetraacetic acid (DPTA-OH) or salt thereof, hydroxyethylidene diposphonic acid (HEDP) or salt thereof, nitrilotrimethylene phosphonic acid (NTMP) or salt thereof, or phosphonobutane tricarboxylic acid (PBTC) or
20 salt thereof is 0.001 to 0.1 wt%.

7. The water-based ink according to claim 6, wherein the amount added of the gluconic acid (GA) or salt thereof, or citric acid (CA) or salt thereof is 0.001 to 0.5 wt%.

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8. The water-based ink according to claim 6, wherein the

amount added of the nitrilotripropionic acid (NTP) or salt thereof, nitrilotrisphosphonic acid (NTPO) or salt thereof, or dihydroxyethylglycine (DHEG) or salt thereof is 0.001 to 0.2 wt%.

5 9. The water-based ink according to claim 6, wherein said colorant is a dye, or a dispersion in which a pigment has been made to be dispersible in water by being enveloped in a polymer or has been dispersed without a dispersant.

10 10. The water-based ink according to claim 9, containing said dispersion, and further containing polymer fine particles.

11. The water-based ink according to claim 5 or 10, wherein the absolute value of the zeta potential in a state in which said
15 dispersion and said polymer fine particles have been mixed together is at least 30 mV.

12. The water-based ink according to claim 5 or 10, wherein the absolute value of the zeta potential of each of said dispersion
20 and said polymer fine particles independently is at least 30 mV, and the absolute value of the difference between the zeta potential of said dispersion and the zeta potential of said polymer fine particles is not more than 10 mV.

25 13. The water-based ink according to claim 5 or 10, wherein the polarity of ions of said polymer fine particles is the same

as that of said dispersion.

14. The water-based ink according to claim 5 or 10, wherein the particle diameter of said polymer fine particles is 10 to 500 nm, and the amount added of said polymer fine particles is 0.1 to 20 wt%.

15. The water-based ink according to claim 2 or 9, wherein said polymer in said dispersion that constitutes said colorant is at least one selected from the group consisting of polyacrylic acid esters, styrene-acrylic acid copolymers, polystyrenes, polyesters, polyamides, polyimides, silicon-containing polymers, and sulfur-containing polymers.

16. The water-based ink according to claim 1, wherein said surfactant is at least one substance selected from the group consisting of acetylenic alcohol type surfactants, acetylenic glycol type surfactants, and silicone type surfactants.

17. The water-based ink according to claim 16, wherein the amount added of the at least one substance selected from the group consisting of acetylenic alcohol type surfactants, acetylenic glycol type surfactants, and silicone type surfactants is 0.1 wt% to 5 wt%.

18. The water-based ink according to claim 1, wherein said

water-soluble organic solvent is at least one selected from the group consisting of alkylene glycol monoalkyl ethers and 1,2-alkylene glycols.

5 19. The water-based ink according to claim 18, wherein in each of said alkylene glycol monoalkyl ethers, the alkylene glycol group has not more than 10 repeat units, and the alkyl group has 4 to 10 carbon atoms.

10 20. The water-based ink according to claim 19, wherein said alkylene glycol monoalkyl ethers are at least one selected from the group consisting of diethylene glycol monobutyl ether, triethyleneglycol monobutyl ether, propylene glycol monobutyl ether, and dipropylene glycol monobutyl ether.

15 21. The water-based ink according to claim 18, wherein each of said 1,2-alkylene glycols is an optionally branched alkylene glycol having 4 to 10 carbon atoms.

20 22. The water-based ink according to claim 20 or 21, wherein the ink contains at least one substance selected from the group consisting of diethylene glycol monobutyl ether, triethylene glycol monobutyl ether, propylene glycol monobutyl ether, dipropylene glycol monobutyl ether, and 1,2-alkylene glycols, and the amount
25 added of said at least one substance is 0.5 to 30 wt%.

23. The water-based ink according to claim 16, 20 or 21, containing at least one substance selected from the group consisting of acetylenic glycol type surfactants, acetylenic alcohol type surfactants, and silicone type surfactants, and at least one
5 substance selected from the group consisting of diethylene glycol monobutyl ether, triethylene glycol monobutyl ether, propylene glycol monobutyl ether, dipropylene glycol monobutyl ether, and 1,2-alkylene glycols.